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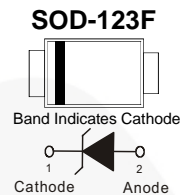


August 2016

# MMSZ5V6CF / MMSZ18VCF / MMSZ20VCF / MMSZ28VCF / MMSZ36VCF 1 W Zeners

## Features

- Zener Diode with 5% Tolerance
  - Ultra Thin Profile - Maximum Height of 1.08 mm
  - UL Flammability 94V-0 Classification
  - MSL 1
  - RoHS Compliant / Green Mold Compound
  - Industrial Device Qualified per AEC-Q101 Standards
- \* See authorized use policy



## Ordering Information

Part Number	Top Mark	Package	Packing Method
MMSZ5V6CF	5G	SOD-123F	Tape and Reel
MMSZ18VCF	18	SOD-123F	Tape and Reel
MMSZ20VCF	20	SOD-123F	Tape and Reel
MMSZ28VCF	28	SOD-123F	Tape and Reel
MMSZ36VCF	36	SOD-123F	Tape and Reel

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	$T_L = 80^\circ\text{C}$	2.3
		$T_A = 25^\circ\text{C}$	1
$T_J$	Maximum Junction Temperature	+150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to +150	$^\circ\text{C}$

### Note:

1.  $T_J = 25^\circ\text{C}$  prior to surge

MMSZ5V6CF / MMSZ18VCF / MMSZ20VCF / MMSZ28VCF / MMSZ36VCF — 1 W Zeners

### Thermal Characteristic

Symbol	Parameter	Value	Units
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient <sup>(2)</sup>	125	°C/W
$\Psi_{JL}$	Thermal Characteristic Parameter, Junction-to-Lead <sup>(2)(3)</sup>	26	°C/W

**Note:**

- Per JESD51-3 recommended thermal test board. Device mounted on FR-4 PCB, board size = 76.2 mm x 114.3 mm.
- Thermocouple soldered at cathode lead.

### Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Device	$V_Z$ (V) @ $I_{ZT}$ (mA)				$Z_{ZT}(\Omega)$ @ $I_{ZT}$ (mA)		$Z_{ZK}(\Omega)$ @ $I_{ZK}$ (mA)		$I_R(\mu\text{A})$ @ $V_R$ (V)		Average Vz Temp. Coefficient (mV/°C)
	Typ.	Min.	Max.	$I_{ZT}$ (mA)	Max.	$I_{ZT}$ (mA)	Max.	$I_{ZK}$ (mA)	Max.	$V_R$ (V)	
MMSZ5V6CF	5.6	5.32	5.88	100	4	100	600	1	10	2	1.52
MMSZ18VCF	18	17.10	18.90	25	15	25	750	0.25	1	13	14.59
MMSZ20VCF	20	19.00	21.0	25	15	25	750	0.25	1	15	15.79
MMSZ28VCF	28	26.60	29.40	25	15	25	1000	0.25	1	21	25.07
MMSZ36VCF	36	34.20	37.80	10	40	10	1000	0.25	1	27	32.35

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_F$	Forward Voltage	$I_F = 0.2$ A			1.2	V

## Typical Performance Characteristics

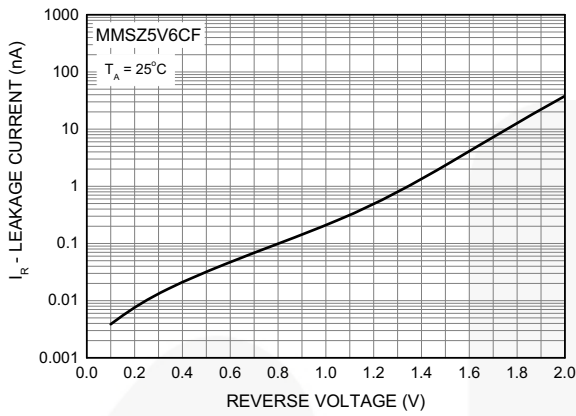


Figure 1. Leakage Current vs. Reverse Voltage for MMSZ5V6CF

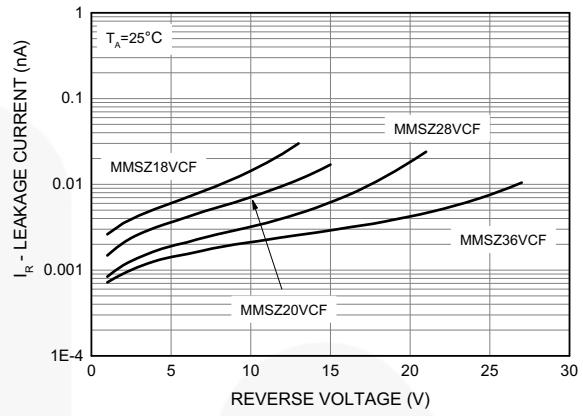


Figure 2. Leakage Current vs. Reverse Voltage for MMSZ18VCF, MMSZ20VCF, MMSZ28VCF and MMSZ36VCF

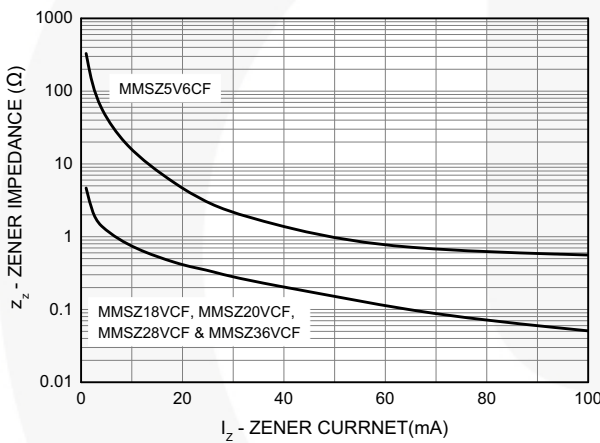


Figure 3. Zener Impedance vs. Zener Current

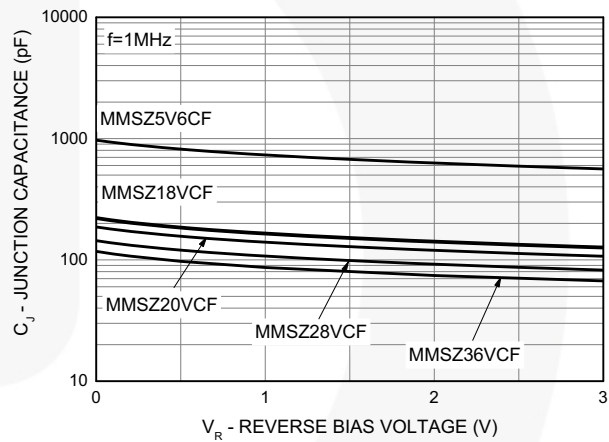


Figure 4. Junction Capacitance vs. Reverse Bias Voltage

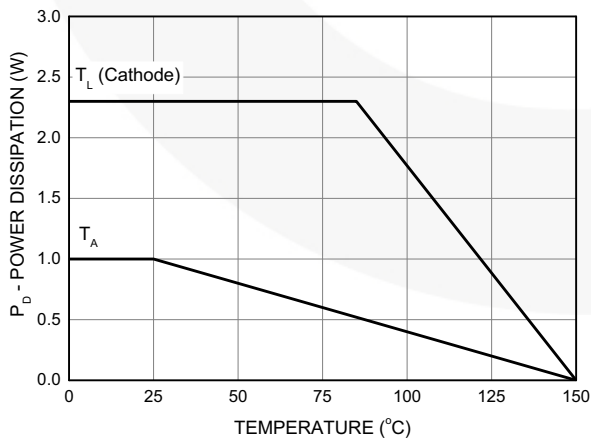


Figure 5. Power Derating Curve

# PACKAGE OUTLINE DRAWING

98A SUPPORTING DOCUMENTATION

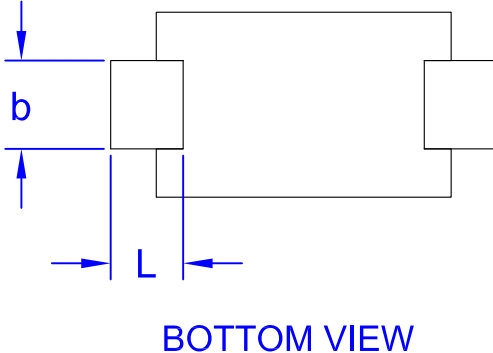
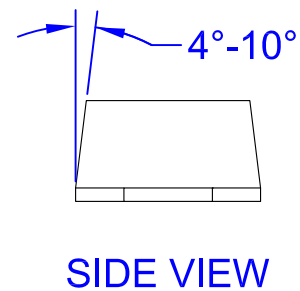
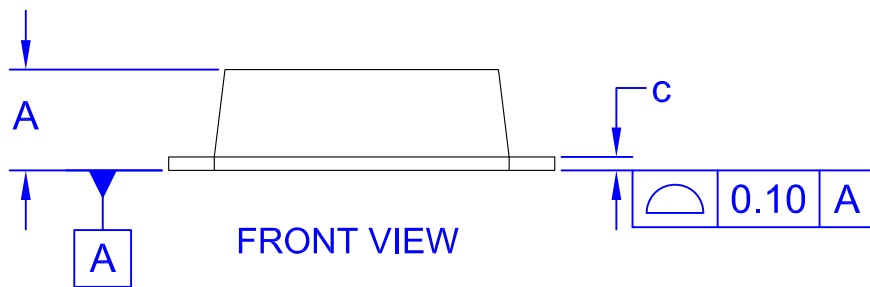
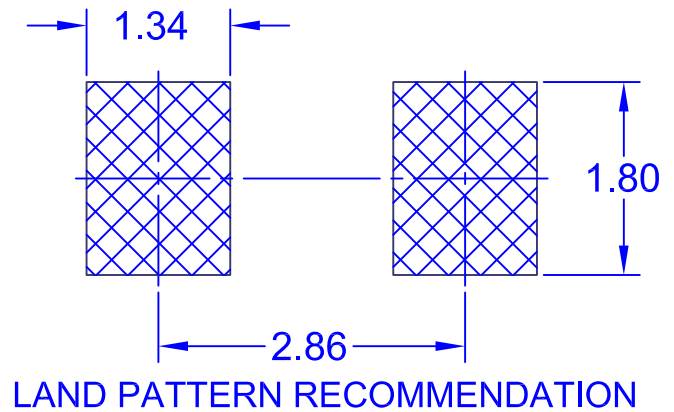
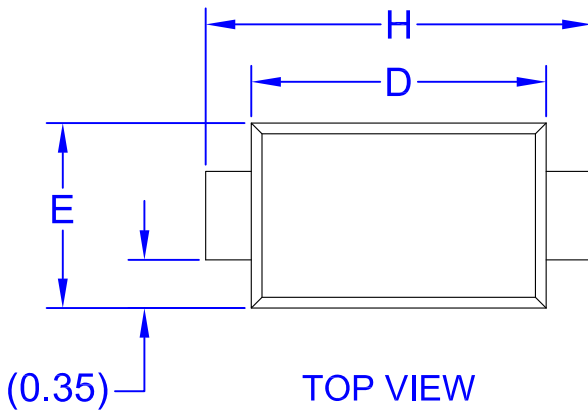
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SOD-123FL  
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ISSUE A

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DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.031	0.043	0.80	1.08
b	0.020	0.045	0.50	1.15
c	0.002	0.008	0.05	0.20
D	0.098	0.118	2.50	3.00
E	0.059	0.077	1.50	1.95
H	0.130	0.154	3.30	3.90
L	0.018	0.035	0.45	0.90

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